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Worldwide Report

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 141

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WORLDWIDE AFFAIRS

BRIEFS

'NUEVA NICARAGUA'-'TASS' SIGN--Moscow, 12 Nov (TASS)--Carlos García, director general of the Nicaraguan News Agency NUEVA NICARAGUA who is staying in Moscow at the invitation of the Soviet News Agency TASS, visited TASS today and had a conversation with TASS director general, Sergey Losev. Later today the heads of the two agencies signed a protocol on cooperation and an agreement on the exchange of photo news services between TASS and the NUEVA NICARAGUA agency. The protocol calls for the broadening of cooperation between the two agencies in the field of communication equipment and news distribution. [Text] [LD130250 Moscow TASS in English 1531 GMT 12 Nov 80]

CS0: 5500

INTER-ASIAN AFFAIRS

BRIEFS

SRI LANKA-INDIA LINK--A microwave telephone link with India will become operational from next year, Posts and Telecommunications Minister D.B. Wijetunga told a meeting in Kurunegala 20 October that once this system is installed direct dialing facilities to India will be available. [BK220601 Colombo International Service in English 1045 GMT 21 Oct 80 BK]

CSO: 5500

AUSTRALIA

BRIEFS

SATELLITE MAPPING--Pictures taken by a satellite which passed over Victoria today were used to help water supply geologists map agricultural area with high soil salinity. As it passed over Kerang in the north of the state, field officers took soil samples to compare with images from the satellite known as Lansat. The information gained from the satellite is expected to show to what extent the high salinity problem in the area is worsening. [Text] [Melbourne Overseas Service in English 1230 GMT 13 Nov 80 OW]

CSO: 5500

BURMA

BRIEFS

REGULAR TV PROGRAMS--The Information and Broadcasting Department, which has been broadcasting television programs on trial basis since 3 June 1980, will commence transmitting regular television programs beginning 1 November. The daily broadcasting time will be from 1930 [1300 GMT] to 2130 [1500 GMT]. Special programs will be aired every Saturday evening and Sunday afternoon. The program schedule for 1 November will consist of songs, musical and choreographic shows. [BK010953 Rangoon Domestic Service in Burmese 1330 GMT 30 Oct 80 BK]

CSO: 5500

BRIEFS

REMOTE SENSING COURSE--Madras, October 22: The first ever post-graduate diploma course in remote sensing which could pave the way for national progress in engineering, geosciences, military intelligence and other areas will be inaugurated at Perarignar Anna University of Technology (PAUT) at Guindy next week. The recently formed technological university had earlier scored another first by setting up India's pioneer department in photogrammetry in the Guindy College of Engineering, which forms the nucleus of PAUT. Photogrammetry and remote sensing are the present-day panacea to most of our worries in almost every walk of life," says Prof. W.P. Vijayaraghavan, principal of the engineering college. By sending up cameras in aircraft flying at an altitude of a few thousand metres and analysing and interpreting the aerial photographs most surveying problems of the country can be solved, he says. Apart from aerial photography, remote sensing is being done through different forms of scanners in spacecraft and satellites. As each satellite scan covers a 185-km area, the study of the earth's crust, monitoring levels in rivers and reservoirs, following forest growth and crop patterns, analysing environmental pollution, predicting natural calamities and other tasks become easy. The elective courses offered by PAUT include electronic survey, statistical theory, computer programming and computer analysis of remotely sensed data, geology and geomorphology, cartography and cadastral surveying. [Text] [Bombay THE TIMES OF INDIA in English 23 Oct 80 p 3]

CROSSBAR EXCHANGES PLANNED--Bombay, September 6--India will soon begin the manufacture of cross-bar exchanges with 200,000 line capacity, the Union communications minister, Mr C.M. Stephen, said here today. He was inaugurating a 10,000 line exchange costing over Rs 10 crores at Mazgaon. This is the 40th exchange in the city. With this, 13,400 lines have been added to the Bombay Telephone system in the current financial year. The department has plans to add 10,000 lines to the Mazgaon exchange "in the near future." Efforts are also being made to either expand the present capacity or commission new exchanges at the Cooperage, Prabhadevi, Andheri, Borivli, Thane and other areas. Mr Stephen said the government was also thinking of manufacturing cross-bar exchanges with 50,000-line capacity. [Excerpt] [Bombay THE TIMES OF INDIA in English 7 Sep 80 p 5]

SATELLITE NETWORK INAUGURATED--The domestic satellite telecommunications network connecting New Delhi and Madras with remote areas of Car Nicobar, Port Blair, Kavaratti, Leh and Aijol was inaugurated today by the prime minister at Sikandrabad near Bullandshahr about 70 km from New Delhi. Earth stations set up at all these seven places are now connected through the international telecommunications satellite. Speaking on the occasion Mrs Gandhi reiterated that the government is fully aware of the problems of remote areas. All efforts are being made to promote the welfare and economic development in these areas. Hailing the event as historic, Mrs Gandhi said that the new link will not only strengthen unity among different regions but also help the speedy development of remote areas. [Excerpts] [BK151619 Delhi Domestic Service in English 1530 GMT 15 Nov 80]

CSO: 5500

JAPAN

BRIEFS

RADIO LINK WITH ANTARCTIC--Tokyo, 21 Nov (KYODO)--Regular radio communications will begin next February between Japan and Showa Base in the Antarctic for the first time since the base was established there more than 20 years ago, the Education Ministry said Friday. A radio station installed at Showa Base will start sending messages direct to Japan via a marine communications satellite. Communications between the base and Japan have so far been made by short wave radio but these communications have been limited to the sending of telegrams for 90 minutes every day except for the weekends and two telephone calls a month, the ministry said. The regular communication facilities will assist in the rapid transmission of observation data, it said. [Text] [OW211143 Tokyo KYODO in English 1136 GMT 21 Nov 80]

CSO: 5500

VIENTIANE TO HAVE OWN RADIO BY 1981

Vientiane VIENTIANE MAI in Lao 26 Aug 80 p 2

['Conversation With the Editor' Column: "Is There a Radio Station for Vientiane?"]

[Excerpts] [Question] 1. Does Vientiane City and Province have its own radio station? The other provinces all have them?

2. Why has the Vientiane City and Province loudspeaker network been closed down and not yet been reactivated?

[Answer] 1. As of now, there is no radio station for Vientiane City and Province. There are many reasons for this, primary among which is that there is still a shortage of cadres for this matter. However, the Vientiane Propaganda Service, specifically our department is presently diligently paying attention to this matter by training and teaching the specialized subject matter to cadres. We are preparing the station and other facilities and it is believed that in 1981 at the latest, [the station] will be in operation. However, that depends on conditions as stated above, because in order to do anything, things are difficult because we are not unlike newborn infants. As everyone knows our country has only been liberated for just over 4 years and can be compared to a person who [has learned to] walk and who finds it difficult to do anything. However, [we] must firmly believe that we are urgently pushing this matter.

2. As is the situation with the radio, the relevant services are urgently paying attention to things to facilitate this matter. It has halted [operations] for many reasons. However, we ask that you be understanding of the difficulties. As Comrade Thongkhoun Sengdara, of the responsible committee for this task has told us, it is believed that by the end of this year, [the system] will be put back into operation in some districts located near the capital. As to which districts these will be, we wish to keep that a secret. If it were to be revealed in advance, it would not be as exciting when the time actually came.

CSO: 5500

BRIEFS

GROUND STATION PLANNED--During the afternoon of 10 June 1980, Mr Bounma Thavisai of the responsible committee in the Collection Department, Ministry of Posts and Telecommunications told our reporter that since our country was liberated 5 years ago postal and telecommunications activities have been organized, improved and expanded in order to meet constantly and better the needs of society in national defense, expansion of education and culture, promoting production, raising the people's living standards and serving foreign relations. Specifically in Vientiane City and Province at this time the activities of the postal network have been expanded to the level of 15 district towns throughout Vientiane Province. In accordance with the initial 5-year plan, the work of setting up a satellite ground station will be continued as planned. A telephone directory will be produced, telephones will be expanded and the reporting system will be improved for good results. Mail boxes for mailing letters will be further improved and the long distance telephone system will be extended to the various districts throughout Vientiane Province. Currently, the long-distance telephone system is in use in two district towns. [Text] [Vientiane VIENTIANE MAI in Lao 14 Jun 80 pp 1,4]

VANG VIANG TELEPHONE SYSTEM--At the beginning of July 1980, there was a ceremony held in [Meuang] Vang Viang District, Vientiane Province to formally hand over a 100-line telephone exchange to the district. Mr Somlit represented the Ministry of Posts and Telecommunications in handing it over and Mr Kham Boulon of the [Meuang] Vang Viang District Administrative Committee accepted it. The cadres and local officials concerned were present. This was done to contribute to the promotion of production and to the steady raising of living standards of the people in that locality. [Text] [Vientiane VIENTIANE MAI in Lao 15 Jul 80 p 1]

CSO: 5500

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

SOLAR FLARES AFFECT COMMUNICATIONS--Kunming, November 8 (XINHUA)--The Yunnan Observatory reports sighting a solar flare of third degree yesterday morning. The flare, located near the center of the solar disc, commenced at 9:50 a.m. and lasted until 11:10 a.m., astronomers at the observatory said. The flare interfered with the earth's ionosphere, causing a break in short-wave communications in the Kunming area for about an hour and a half. It will continue to cause geomagnetic disturbances for a couple of days, they forecast. Two previous flares were reported in early September and in October by the Beijing Observatory. [Text] [OW080709 Beijing XINHUA in English 0700 GMT 8 Nov 80]

NEW SHANGHAI TELEVISION CHANNEL--Shanghai will begin transmitting television programs on Channel 20, beginning some time next January. To enable users of those television sets receiving programs on Channel 12 to receive transmissions through this new channel, the electronics industrial departments in Shanghai have made the necessary arrangements for a municipal television equipment plant to produce U-20 channel tuners, type V-2. Mass production of the channel tuners has begun. They will be priced at about 12 or 13 yuan each, according to a cost estimate. [OW051235 Shanghai City Service in Mandarin 2300 GMT 4 Nov 80 OW]

CSO: 5500

SOUTH KOREA

BRIEFS

RESTRUCTURING OF ROK MEDIA--Seoul, 17 Nov (HAPTONG)--The South Korean press circles are about to face a major restructuring and reorganization as plans are fully underway to merge a number of daily papers, news agencies and broadcasting companies. According to the plan announced by the Korean Newspaper Association and Korea Broadcasters Association Friday, the overhauling will involve five news agencies, one television network, three radio stations and a number of provincial and financial papers. Under the plan, the nation's two major news agencies, The HAPTONG News Agency and the Orient Press, will be merged to set up one larger privately-run agency, which will also absorb three other minor specialized news agencies. The Tongyang Television Network (TBC-TV) will be incorporated into the state-run Korea Broadcasting Company (KBS) which plans to create a new TV channel exclusively for educational and cultural programmes. The KYONGHYANG DAILY NEWS will absorb the daily SIN-A ILBO, one of the seven central papers, and the only state-run evening paper; the SEOUL SINMUN will become a morning paper. The other six central papers will remain unaffected in the reorganization. Three radio networks will also be involved in the restructuring including the Tongyang (TBC) radio and the Tong-A Broadcasting System (TBS) which are to be merged into KBS. The Christian Broadcasting System (CBS) is to air only evangelical programmes. Of the nation's four financial papers, the MAEIL KYONGJE and the HYONDAE KYONGJE will survive while the SEOUL KYONGJE will be incorporated into the HANGUK ILBO, and the NAEAOE BUSINESS JOURNAL into the KOREA HERALD. All the provincial papers will be merged under the principle of one paper for every province. The plans will go into effect from December. [Text] [SK170138 Seoul HAPTONG in English 0124 GMT 17 Nov 80]

CSO: 5500

INTERNATIONAL AFFAIRS

CEMA COMMITTEE FOR POSTS, TELECOMMUNICATIONS MEETS IN BERLIN

Opening of Session

AU211149 East Berlin NEUES DEUTSCHLAND in German 19 Nov 80 p 5

[Text] Berlin (ADN)--The 19th session of the CEMA Standing Committee for Posts and Telecommunications was opened on Monday in Berlin by Vasily Shamshin, USSR minister of posts and telecommunications. On behalf of the GDR Government, Rudolph Schulze, deputy chairman of the GDR Council of Ministers and GDR minister of posts and telecommunications, welcomed the delegation heads and members.

On the basis of the 34th CEMA session decisions, the committee will deliberate on measures for perfecting the organization of cooperation among the CEMA member countries in the sphere of posts and telecommunications, as well as on the tasks from 1981 to 1985.

Coordination of Plans 1981-85

LD227348 East Berlin ADN International Service in German 1758 GMT 22 Nov 80

[Text] Berlin, 22 Nov (ADN)--The 19th meeting of the CEMA Standing Committee for Posts and Telecommunications ended in Berlin today after several days of consultations. The meeting was attended by delegations from Bulgaria, Hungary, Vietnam, the GDR, Cuba, Mongolia, Poland, Romania, the Soviet Union and the CSSR.

In accordance with the agreement between CEMA and the Government of the SFRY a delegation from that country took part in the meeting. Representatives of the Democratic Republic of Afghanistan were present as observers.

The committee took stock of the state of coordination of the plans for coordination of post and telecommunications of the CEMA member countries in the period 1981 to 1985. It approved the plan for the second stage in the creation of the mutually linked automatic integrated communications system of the CEMA member countries and their working plan up to 1982. The committee also approved the proposals for cooperation between the CEMA member countries and the SFRY in post and telecommunications for the period 1981 to 1985.

CSO: 5500

BRAZIL

THIRTY COMPANIES NOW PRODUCING COMPUTER COMPONENTS

Rio de Janeiro JORNAL DO BRASIL in Portuguese 25 Oct 80 p 17

[Text] Sao Paulo--The national computer industry has five large companies producing miniature computers, in addition to lesser electronic digital products. They are: COBRA--Computadores Brasileiros S.A.; EDISA--Eletronica Digital S.A.; LABO Eletronica S.A.; SID--Sistemas de Informacao Distribuida S.A. and SISCO--Sistemas de Computadores S.A.

Nearly another 30 companies, which manufacture accessories and components, are also linked to the Brazilian Computer and Accessory Association, ABICOMP. The purpose of this organization, which was created last year, is to promote the union of the national industries of the sector, primarily seeking the independence of Brazil in the area of data.

To have an idea of the importance of national manufacturers participating in the sector, the 35 companies associated with ABICOMP have an overall capital of 20 billion cruzeiros and general investments of 3.4 billion cruzeiros. In 1979 they sold nine billion dollars worth of goods and in the first half of 1980 their sales were 17 billion cruzeiros, with forecast sales of 25 billion cruzeiros by December.

LABO Is Outstanding

The management of LABO Eletronica (Forsa Group) believes the results of their first year in the manufacturing and sale of computers, whose gross receipts for sales and services (including taxes) in the 14-month season ending in May, were very satisfactory, totaling 533.4 million cruzeiros compared to 41,354,000 cruzeiros in the season ending in May 1979.

A large part of the LABO systems installed and on order are for medium-sized companies, which are using computers for the first time. According to the director of the company, "We have a dominant position in that specific segment of the market," with 90 percent of the sales in the last fiscal year being in computers.

The operational profit of the company reached 7.3 million cruzeiros compared to a loss of five million cruzeiros last year. Net profits after income tax and monetary correction were 11.5 million cruzeiros, compared to a loss of 5.8 million cruzeiros.

With a total of 45 technicians and officials (200 of them of an advanced level) [as published], LABO was also outstanding in terms of consolidation of sales, taking into account that results exceeded expectations considerably. A sales target of 120 systems and the technical delivery of systems throughout the fiscal year was established.

Sales, however, reached 131 and deliveries 118, for a total by the end of the year of 138 systems installed and fully operational with both hardware and software. The company finished its system of software, the SACIL—LABO Integrated Applicable Commercial Systems—also tested and implemented—and has placed more than 400 modules on the market, primarily for users of the center-south region.

With a payroll of nearly 30 million cruzeiros (the greater part paid to the area of software), LABO finished the installations of its plant and has integrated the systems, using national accessories, and is now beginning the manufacture of electronic boards, using imported material and, progressively, national components.

Learning

Still during the fiscal year ending in May, the company embarked on a greater approximation with its associate Mediate Informatica e Tecnologia S.A., the first "system house" of the Brazilian market. That approximation and the agreements signed should produce results this fiscal year, according to management, in which it is expected that 30 percent of the systems delivered by LABO will be provided with "mumps," general use types and data entry.

LABO executive vice president Carlos Augustine Caldas da Silva said that the fiscal year beginning 1 June indicates excellent prospects in terms of production of equipment, as well as in the progressive national manufacture and sale of its products, "Whose efficiency has already been confirmed by more than 170 national and multinational users." LABO even sold a system to an internationally known manufacturer of data processing equipment.

The volume of systems contracted during the fiscal year reached nearly 650 million cruzeiros at current prices or those forecast for the time of delivery, guaranteeing for LABO at the beginning of the fiscal year June 1980 to May 1981, sales of 38 systems. The company invested 300 million cruzeiros during the fiscal year in fixed expenses and preoperational expenses. Those expenditures were made as deferred assets and will be amortized over a period of 10 years.

Bradesco Foundation and SIF [Sistemas de Informacao Distribuida]

The participation by the Bradesco Group in SID and DIGILAB--Laboratorio Digital S.A. went beyond a simple contribution of capital by that bank conglomerate. Under specifications of Bradesco, those companies developed a complete cashiers terminal.

The initiative made possible the conditions, not only for the mass production of those terminals for the "agencies of the future" (agency in real time), but also so that the laboratory of the Bradesco Foundation could develop a manual CMC7 reader, which concluded by breaking the international technological taboo that the reading of CMC7 characters should be constant.

This is a more practical reader than the motorized CMC7. It is completely electric (but it does not have a motor), having only a small spring as a mechanical part.

According to the manager of the Bradesco Data Processing Department, Jose Silvio Simoes Pinto, the manual reader developed in the laboratory of the foundation is more practical, occupies less space and will entail fewer costs than the motorized reader.

It also has the "time and movement" aspect as an advantage. The cashier terminal passes documents such as checks through the reader and without releasing them and authenticates them at the larger terminal. The motorized CMC7, which is imported for around \$5,000, obliges the cashier terminal to let go of the document. Before developing the manual reader, the foundation laboratory built a prototype of the motorized reader, spending only \$150 for the components it purchased in Sao Paulo. The foundation preferred the manual reader because it was more economical.

The cashier terminal, the manual reader CMC7, the numbered keyboard for the customer, the consulting terminal, the flat printer and the magnetic card recorder are linked to the minicomputers manufactured by SID (SID 5000), all together making up the equipment needed for the "agency of the future."

Bradesco Plans

The Bradesco Group intends to use the equipment of the "agency in real time" as of the beginning of next year, inaugurating two systems. The first will be at the master agency and the other at an agency still to be selected. During the next year, those real time terminals will be installed gradually until they are provided for all 163 Bradesco agencies in Greater Sao Paulo, Campinas and Santos, as well as 150 service facilities.

According to Jose Simoes Pinto, in about 4 years the system will be broadly used in that area, making it possible as of 1981 to use the idle capacity generated by the large computers for processing services of the group throughout the country. To have an idea of the scope of the need for processing by Bradesco, there is the fact that its agencies are now receiving a million checks per day.

Interest and Experience

For nearly 2 years, the Bradesco Data Processing Department has been devoting itself to studies for obtaining specifications for its processing terminals. The department experimented previously in two agencies, using real time equipment from two different suppliers. However, according to Jose Simoes Pinto, the service by those two systems fell short of the requirements of the bank. The new choice, based on the specifications given to SID, DIGILAB and the Bradesco Foundation, "gives us greater speed with greater reliability," he emphasized.

The average number of cashier positions per bank agency in Sao Paulo is 25. The terminal of the real time agency, which Bradesco is going to use as of February, will make possible the linkage of 32 cashier terminals to the SID minicomputers. In that system, the large computers will be more optimized and will work only as backups.

Sales

SID, whose main shareholders are Sharp and Bradesco, recorded sales during the fiscal year ending 31 January of 550 million cruzeiros, delivering nearly 100 systems. In the first six months of this fiscal year, it has already sold 750 million cruzeiros worth, or approximately 120 systems.

The company should end this fiscal year with sales of 2.2 billion cruzeiros for 300 systems, including nearly 1,000 electronic billing machines, its second product after computers. It has a total of 780 officials, approximately 40 percent of whom are of a higher level. It will now put on the market the new models of the 5000 minicomputer, hardware as well as software. Moreover, it will put out a family of financial terminals and another microcomputer, all totally developed by the company, in the former case, with the support of the Bradesco Foundation and DIGILAB.

Emphasizing Technology

"Consolidation of a strong and competitive national industry with the absolute knowledge of the technological base, which will be demonstrated by emulation and our own development and not by simple technological 'transplants,' " was, according to marketing general director Jose Roberto Faria of SISCO-Systems Computers, and the alternative chosen by the company.

Unlike the majority of competitors, who installed themselves in sophisticated offices far from the factories, SISCO (Hidroservice Group) occupies the cramped offices of the upper levels of the factory itself in the airport district of Sao Paulo. To Jose Roberto Faria Lima "It is more rational to invest as much as possible in technology and later become more sophisticated in something which seems secondary to us."

He emphasized that the company already knows the engineering aspect of the product and production, in addition to having had the first contacts for providing OM with ELEBRA and MOCROLAB, including other similar systems manufactured by the company.

He also pointed out that one of the reasons for the success of SISCO is the technological support structure in the period before and after sales and in maintenance. He added that the interest of his marketing department is to create a sales network on a national level. He also said that only his company and COBRA, of all the national computer manufacturers, have a production control division.

The company has a total of 333 technicians and officials, 36 percent of them of a higher level, and 14 percent of a technical level. It invested nearly 100 million cruzeiros in development in 1979 and up to October of this year, it has a total of 57 customers in the various productive sectors.

One of its most important sales was that of the Dual MB 8000 System to the Parana State Bank (BANESTADO), equipment which will be used in the creation of a network of regional centers for distributed processing. In the first phase of the project, equipment will be installed in Curitiba, Londrina, Maringa and Cascavel, which will be linked to the central IBM computer located at the headquarters of the conglomerate in Curitiba.

8908

CSO: 5500

BRAZIL

BUSINESSMAN ASKS FOR HELP FOR TELECOMMUNICATIONS INDUSTRY

Rio de Janeiro JORNAL DO BRASIL in Portuguese 28 Oct 80 p 15

[Text] Sao Paulo and Belo Horizonte--Worried about the future of the national telecommunications industry, the director of ABINEE [Brazilian Electro-Electronic Industry] and president of the Embracom Group, businessman Jacques Glaz pointed to the closing of Transit Semicondutores S/A of Belo Horizonte and the transfer of stock control of the Elebra Group to the Docas de Santos Company as "obvious consequences of the absolute lack of a more defined industrial policy adapted to the present needs of the industries of the sector."

Responsible for a conglomerate of genuinely Brazilian companies, which are mainly active in telecommunications, the businessman said that a better planning of orders, a reserve market of more defined patterns, effective rules for help and protection, in addition to the execution of that policy itself, are necessary for the survival of the companies of the sector.

In the opinion of Jacques Glaz, measures of that type, if really carried out, will help the Brazilian telecommunications companies "face the successive cuts and reductions in orders by the government, the greatest reason for the crisis the sector is undergoing."

Control of TELEBRAS

Since the stockholders agreement signed in November 1978, TELEBRAS [Brazilian Telecommunications, Inc.] has been controlling the production and sales of Transit Semicondutores, whose 350 employees receive their last pay in July. In an official note revealed yesterday in Belo Horizonte, the management of Transit says that the company is a viable enterprise with liabilities of less than 410 million cruzeiros and an installed capacity for producing one billion cruzeiros per year at today's prices.

"After the decree announced by SEI executive secretary Octavio Genari becomes official, defining the conditions for the activities of the data industry based on the semiconductor, all possible obstacles which make the operation of Transit difficult will disappear and the manufacture of semiconductors by Brazilian companies will be facilitated," adds the Transit note.

According to a company source, former minister Quandt de Oliveira, who left the presidency of Transit a week ago, also ceased to be the TELEBRAS representative in the company. He also held the post of vice president for operations, to which the Production and Sales Directorates were subordinated, after the departure of Antonio Bahi, TELEBRAS official appointed to the position after a stockholders agreement signed in November 1978.

8908

CSO: 5500

BRAZIL

NATIONAL TELECOMMUNICATIONS INDUSTRY REMAINS IN TROUBLE

Rio de Janeiro JORNAL DO BRASIL 13 Oct 80 p 13

[Text] Brasilia--The national telecommunications industry, with an idleness rate of around 65 percent today, idleness caused by the decline in government spending which restricted the volume of orders to the sector, should not have its situation changed much in 1981 because the government, its principal customer, is going to maintain the same level of orders of this year: around 385,000 new telephone terminals.

According to the conclusions of the "Telecommunications Sectoral Diagnosis--Great Industries of the Sector, 1980," prepared by the Geicom-Materials Component Interministerial Executive Group, an agency linked to the General Secretariat of the Ministry of Communications, faced with the recession in the telecommunications industry, the large companies are seeking to export as much as possible, and since they are having difficulties in competing abroad due to the price of components, they are exporting equipment with percentages of nationally manufactured parts much lower than those already attained.

Imports

After detailed studies of the industries which make up the telecommunications sector in Brazil, Geicom concluded that in the 1977-1979 3-year period there was a substantial reduction in imports by the telecommunications sector. The value recorded in 1979, according to the agency, was \$103.8 million, which represents only 38 percent of the value recorded in 1976, which was \$265 million (including the figures from the operating and manufacturing companies).

In the 1977-1979 period, imports by the sector of telecommunications meant 20, 11 and 8 percent of the imports by the electrical-electronic sector, and 1.5, .7 and .6 percent of total Brazilian imports. The telecommunications equipment industry, which imported the most in that 3-year period was Siemens, followed by Ericsson and NEC. Specifically, the companies which imported the most were Siemens with \$16.9 million, followed by NEC with \$11 million, and Ericsson and Phillips of the northeast with \$6.9 million each.

The "Diagnosis" says that Ericsson, the largest importer among the industries of the sector during the 1974-1976 3-year period, in 1977 fell to second place and in 1979 fell to fourth place in imports, with a volume of \$6.9 million, four percent of the volume of its imports during 1974, which amounted to \$164 million.

As far as exports are concerned, the Geicom document says that in the 1977-1979 3-year period, Phillips of the northeast was in first place with volumes of \$13.4 million, \$11.4 million and \$10.4 million, respectively, in telephone equipment exports during the 3 years of the aforementioned period. That industry, according to the document, exports equipment under the "draw-back" system and its balance (exports minus imports) has remained positive.

Also in 1979, the industry which exported the most telecommunications equipment was Standard Eletrica with \$14.7 million, followed by GTE of Brazil, Telecommunications Division, and by Phillips of the northeast, both with \$4.1 million. In terms of a positive balance--exports minus imports--Standard Eletrica showed \$9.7 million, followed by Phillips of the northeast with \$3.3 million and GTE of Brazil with \$1.7 million.

Generally, however, exports by the telecommunications sector remained at very low levels in 1975 and '76--a maximum of \$6 million. In 1977, exports advanced to \$14.2 million and in 1979 they rose to \$24.5 million, which is 4.6 times more than the value of exports in 1974, when they amounted to \$1.7 million.

According to the Geicom diagnosis, among the companies analyzed those which show the smallest percentage of nationally-manufactured parts in telecommunications equipment are Ausco, Siemens and NEC. Those showing the largest percentage are GTE, Plessey, Ericsson and Standard Eletrica.

Ministry of Communications Secretary General Romulo Villar Furtado said that the problems of the telecommunications industry are basically those of financial resources. In his opinion, the idleness of the sector in terms of production will tend to increase if the present levels of orders are maintained.

8908

CSO: 5500

BRAZIL

BRIEFS

SUBMARINE CABLE TO U.S.--Communications Minister Haroldo Mattos has signed a resolution authorizing EMBRATEL to contract special engineering services for completing the laying of the "BRUS" submarine cable to connect Brazil with the United States. The contracts for a total of \$6.3 million will be signed with 3 U.S. firms: American Telephone and Telegraph, Transoceanic Communications Inc. and Western Union International Inc., and ITT Eorles World Communication Inc. [as received]
[PY160225 Rio de Janeiro O GLOBO in Portuguese 7 Oct 80 p 7 PY]

CSO: 5500

STATUS REPORT ON COAXIAL CABLE PROJECT

Havana BOHEMIA in Spanish 3 Oct 80 pp 16-21

[Article by Gregorio Hernandez; source of information: Coaxial Cable Directorate, Ministry of Communications]

[Text] The diverse and complex social and economic activities of society today are based, among other things, on three main systems: transportation, the distribution of electric power and electric and postal communications.

The multidirectional movement of persons and products, the flow of energy in the form of electricity and the conveyance of information, using the respective networks, combine their effects in the dynamics of society.

Consequently, one of the positions approved by the First Congress of the party states that within the field of communications, "it is necessary to proceed with all possible speed on the installation of 1,800 kilometers of coaxial cable, a mainstay guaranteeing the introduction of a national teleselection system over the next 5-year period."

This cable, along with the microwave system, lines of transmission and other networks complementing it, will be called upon to absorb the increase in telephone traffic during the period.

In addition, the country's development throughout the years of the revolution has given rise to an increase in the needs of long-distance communications services, inasmuch as the existing systems are not adequate to meet the high volumes of telephone traffic.

As a result of this situation, the governments of the Soviet Union and Cuba signed economic cooperation agreements in December 1972 in Moscow and in April 1976, agreements concerning the planning of a line of communications by cable (Cubanacan Project) 1,737.9 kilometers long, with the installation of 2,179 kilometers of coaxial, symmetrical cable (in some sections, two parallel cables will be installed) running from the city of Pinar del Rio to Guantanamo. The line will link the capitals of the 14 provinces and will have telephone branch lines running to other major cities such as San Cristobal, Artemisa, Guines, San Antonio de los Banos, San Jose de las Lajas, Jaguey Grande, Mayari and Palma Soriano.

Objective

The prime objective of the coaxial cable consists of meeting our country's needs in the field of telephone and telegraph communications and the transmission of data over long distances. It will also be used as a reserve for a television channel in the new, recently-installed National Microwave System.

In there should be an interruption in a section of the Microwave System, it will be possible to broadcast a television channel, both the audio and video, by the coaxial cable. Likewise, if there should be an interruption in a section of the cable, 960 telephone channels will be able to be transmitted by the new National Microwave System.

The cable will meet the circuit needs of the country's main cities and the system's expansion capabilities will make it possible to cover demands emerging after 1990. In addition, the coaxial cable may be used as a means of facsimile transmission for the press, eliminating transportation by air to the provinces. The installation of the System of Transmission by Coaxial Cable will put Cuba on a level with the developed countries with respect to long-distance communication facilities and will lay the foundations for the future national television selection network.

Technical Advantages

Long-distance telephone service -- the service between cities or towns -- can be operated manually or automatically.

Manual service is extended by operators who direct or interconnect users, while under the automatic system, any subscriber may communicate with a distant telephone without the intervention of an operator by means of direct dialing to the desired city.

In order to automate the national telephone service, it is necessary to have a teleselection system making it possible to handle requests for long-distance calls. Studies made internationally and the experience of our own country show that this telephone traffic is steadily growing.

In order to meet this demand, it is necessary to have an adequate means of transmission supplying the large numbers of telephone channels necessary.

Transmission may take place in various ways, one of which is the coaxial cable. Among the technical advantages of this system is the possibility of transmitting a broad spectrum of frequencies and consequently, a large number of telephone channels. At the same time, it offers good protection against interference and ensures privacy in communications.

System

The Coaxial Cable System (Cubanacan Project) includes the following: coaxial cable, symmetrical cable, multiplex equipment, unmanned repeater stations, semi-terminal stations and terminal stations.

The coaxial cable for communications is made up of two conductors: One is solid, running inside the other, which is hollow, in the form of a tube, and which is wrapped around the first in a concentric manner. The name "coaxial" is derived from the fact that both cylinders have the same central axis.

The internal conductor is kept in the center of the outside tube by means of tiny separator disks made of an insulating material. The disks are placed at short intervals.

Several of these coaxial lines are placed inside a cylindrical nucleus and more pairs of normal conductors are added to be used for supervision or coordination.

The entire cable is covered with a thick layer of insulation and finally, an outer coating of lead and aluminum. Other materials can be put on top of the lead and aluminum to give the cable greater protection against corrosion, interference from electric lines and atmospheric discharges.

In Cuba, the system's main route will be a coaxial cable containing two pairs of coaxial lines and ten pairs of symmetrical conductors. For some connecting lines of the main route, so-called "symmetrical," high-frequency cables will be used. These consist of several pairs of copper wires put together in groups inside the same cable, insulated against one another and then covered with aluminum and lead. Like the coaxial cable, the entire unit is properly protected against outside interference.

Both the coaxial cable and the symmetrical cable will have a continuous gas pressure system installed in order to improve reliability, ensure control of the hermetic tightness of the wrapping and prevent any moisture from penetrating during any interruption.

In order to insert or extract information from the coaxial or symmetrical cable, it is necessary to install so-called multiplex equipment whose function is to take every conversation, assign it a frequency gauge, mix it and amplify it so that hundreds of conversations can be transmitted simultaneously by the coaxial cable.

The unmanned stations will be placed every 5.7 kilometers in specially designed cassettes. They are called "unmanned" stations because they require no personnel for their constant attention. They have a control and alarm system handled by the semi-terminal stations, where possible problems can be detected and corrected if necessary.

The semi-terminal stations will be set up in a main building very similar to a telephone central. The building will house the multiplex equipment hooked up to the coaxial cable, along with the telefeeder and telemechanical equipment for the unmanned repeater stations.

The terminal stations are the buildings -- telephone centers -- in the cities equipped with communications lines for the city or center of population in question, hooked up to the urban networks by means of the automatic and manual long-distance communications centers.

At the present time, the development of technological research has resulted in a considerable increase in the capacity of the coaxial cables. Today, throughout the world there are coaxial cables in operation with capacities of up to 100,000 telephone tracks.

Layout

The cable's route was chosen based on the following considerations: its length, the minimum cost for protection against corrosion; interference from high-tension electrical lines and atmospheric discharges; minimum effect on agriculture; reliability of the system; ease of maintenance and operation; prospective plans for electric lines, roads, hydraulic projects, agricultural and livestock plans; the prospective growth of cities, and so on.

The route mainly runs along the National Highway (eight-lane highway). In sections at a distance from the National Highway, the cable route runs along the Central Highway or other important roads. Recently, two crossings of the highway were built in Havana Province, using drilling equipment allowing the cable to pass without damaging the pavement.

Similar work is also being done on the section of the highway in Villa Clara Province. This was made possible by the cooperation of the Ministries of Transport and Construction, as well as that of the Vice Ministry of Geology of the Ministry of Basic Industry.

The total length of the route is 1,737.9 kilometers, corresponding to 1,435.4 kilometers of coaxial cable and 743.6 kilometers of symmetrical cable, for a total of 2,179 kilometers.

Infrastructure

In conclusion, we would say that the completion of the Cubanacan Project requires:

The construction of 14 complexes for semi-terminal stations; the construction or expansion of 21 telephone centers; the construction of 237 cassettes for unmanned repeater stations; the construction and installation of 1,220.5 kilometers of cable bed, using mechanized excavation and the manual and mechanized laying of cable; the construction and installation of cables along 475.3 kilometers, using explosives and jack hammers; the construction of 42.22 kilometers of underground telephone routing with 6 to 12 conduits in the cities; the installation, measuring and testing of 1,435 kilometers of coaxial cable and 743.6 kilometers of symmetrical cable; the construction and installation of over 650 crossings under highways, roads and railroads; the mounting and adjustment of technological equipment in 21 interurban telephone stations -- telephone centers -- 14 semi-terminal stations and 237 unmanned repeater stations.

These are the details on this important technological undertaking, a mainstay of communications in the country's development.

"...500 kilometers in salute to the Second Congress": engineer Piliberto Au Kim, of the Coaxial Cable Directorate. "Construction of the coaxial cable throughout the country is being done by a new enterprise set up in the Ministry of

Communications and called the Coaxial Cable Builder. To date, 371 kilometers of cable have been installed and the goal set for the Second Congress of the party is 500 kilometers. Workers are satisfied with progress on the project.

"The Construction and Assembly Enterprise of the ministry has also begun to install and mount technological equipment for the coaxial cable in Havana City. Work will soon begin in Matanzas. In addition, civil engineering works contracted for with the Ministry of Construction are being completed, and the plan for 1980 includes such projects in 11 provinces.

"Construction and assembly work planned for this year will cost some 11 million pesos."

"Great technical and economic importance": engineer Victor Loktin, chief of Soviet advisers. "Cuba's soil is extremely varied. In some places it is soft, which reminds me of the Soviet Union, but generally, we have rocky soil. The most productive method is working with a cable layer. The mechanized column now working in the municipality of San Jose de las Lajas has six tractors and few workers on the job. The cable is laid quite rapidly.

"Here we use mechanized cable laying, but since the soil is rocky, we first make use of explosives and excavators to open up the trenches. In soft soil, it is not necessary to open trenches with explosives and excavators because the cable-laying machine has a knife that makes a narrow trench and then puts in the cable and covers it up. I believe that this project is of great importance to Cuba, both technically and economically."

11,464

CSO: 5500

SULTANATE OF OMAN

BRIEFS

SATELLITE STATIONS ESTABLISHED--Muscat--The government is making preparations to set up more satellite earth stations in the sultanate of Oman to facilitate telecommunications. The minister of posts, telegraph and telephones, Mr Karim Ahmad al-Harami, said yesterday that one of the stations would be set up in the island of Masirah. The minister, who was speaking during a national day address, stated that the government was planning to set up a postal training school in Oman. He said that a public telephone system would be introduced soon in the sultanate which has 23,000 telephone lines. Describing the satellite earth station located at a-Hajar as the main source of communication between Oman and the outside world, the minister hoped that by 1990, about 100 million Omani riyals would be invested in telecommunications and postal services. [Text] [GF151420 Dubayy KHALEEJ TIMES in English 14 Nov 80 p 2]

CSO: 5500

'PANA' TECHNICAL COMMITTEE MEETS ON TELECOMMUNICATIONS NETWORK

AB200726 Kinshasa AZAP in French 1720 GMT 18 Nov 80

[Text] Kinshasa, 18 Nov (AZAP)--The Technical Committee of the Pan-African News Agency, PANA, meets in Dakar from Today until 26 November 1980 to take stock of the telecommunications needs of the national news agencies and the equipment necessary for each member state's posts and telecommunications network. The meeting also aims at drawing up a list of the needs of member states in order to allow the setting up in the short term of a PANA telecommunications network and to inventory the existing means of transmission and those to be set up by PANA at its Dakar headquarters and at the headquarters of the regional pools in order to define the links between pool member states, pool headquarters and PANA headquarters and conversely.

The work schedule includes the examination of documents concerning the five pool headquarters, that is Khartoum for the East African pool, Lusaka for the Southern African pool; Kinshasa for the Central African pool, Lagos for the West African pool, Tripoli for the Northern African pool, and finally the headquarters in Dakar, Senegal.

Participants will also have to examine documents concerning PANA member states: Sudan, Ethiopia, Somalia, Kenya, Uganda, Tanzania, Seychelles, Mauritius, Djibouti, Comoro Islands and Madagascar, which form the East African pool; Zambia, Lesotho, Botswana, Malawi, Swaziland and Mozambique, which form the Southern African pool; Zaire, Angola, Rwanda, Burundi, Cameroon, Gabon, Central African Republic, Chad, Sao Tome and Principe and Congo, which form the Central African pool; Nigeria, Gambia, Ghana, Sierra Leone, Liberia, Senegal, Ivory Coast, Mauritania, Niger, Mali, Upper Volta, Guinea, Guinea-Bissau, Cape Verde, Togo and Benin, which form West African pool; and Libya, Egypt, Tunisia, Algeria and Morocco, which form the North African pool.

The Technical Committee, which includes Algeria, Cameroon, Guinea, Mauritius, Kenya, Libya, Nigeria, Senegal, Sudan, Zaire, and Zambia, will adopt at the conclusion of its deliberations a report and recommendations that will be submitted to the directors of the national news agencies and to the intergovernmental council which will meet next year.

Also attending the meeting is the International Telecommunications Union represented by Mr Abdelhak Benkirane, special adviser and chief engineer for telecommunications.

CSO: 5500

BENDEL STATE TO HAVE POWERFUL TELEVISION STATION

Enugu DAILY STAR in English 29 Oct 80 p 16

[Text] Bendel State Government will soon get a powerful television station. The house of Assembly has passed a motion mandating the state governor, Professor Ambrose Alli, to take immediate steps for the project.

When established, the proposed television station, it stated, should be comparable in standards to the British Broadcasting Corporation and the Control Broadcasting Service (as published) in London and America respectively.

The motion sponsored by Mr V.E.E. Ogun (NPN Agbaxolo North Constituency) also calls on the Governor to speed up the present expansion and modernization plans of Radio Bendel to enable the station carry out its services to the people of the state effectively.

Arguing his motion, Mr Ogun lamented that the present operational deficiencies of both Radio Bendel and NTV Benin had compulsorily subjected Bendelites to both informative and cultural messages from other states. He also argued that the signals of both stations were not received in most parts of the country.

He contended that with the establishment of a state owned television station, the proposed open university by the Federal Government would be met with success.

Some minority members, however, opposed the motion because of poor state finances, arguing that the allocation of wave lengths for television transmission was a federal subject, since it is in exclusive legislative list.

CSO: 5500

GOVERNMENT ORDER ON RADIO LIMITS STILL IN FORCE

Enugu DAILY STAR in English 31 Oct 80 p 12

[Text] The Federal Government policy on radio broadcasting which limited state stations to some specific areas of coverage is still in force.

This was stated by the director-general of Federal Radio Corporation of Nigeria, Mr George Bako, in a Current Affairs Programme of FRCN, Enugu, Talking Point.

Mr Bako pointed out that since the policy was an act, anybody who contravened it was liable to prosecution.

He explained that sanctions had not been brought against some states which violated the policy because of an act of leniency on the part of the Federal Government.

According to Mr Bako, the Federal Government realised that broadcasting equipment were expensive and hard to come by, hence it decided to allow some of the states time to comply with the provisions of the Broadcasting Act.

In answer to another question, Mr Bako said that the corporation planned to establish a second radio channel to be known as FRCN-2 in each of the state capitals, to devote greater broadcasting time to the main language of each state.

In this way, he said, the corporation would be fulfilling in a greater measure its objective of grassroots broadcasting.

Commenting on the articulated views that the standard of news reading in the FRCN Network service was falling because of the corporation's policy of pulling in news readers from the state stations.

Mr Bako pointed out that was an obvious result of most expansion programmes, especially in broadcasting.

The FRCN Director-General said that the problem of correct pronunciation of Nigerian names was a continuous one because of the linguistic and dialectal differences, adding that very many names of people and places were even pronounced differently in the same ethnic group, depending on what part of the ethnic group one comes from.

Mr Bako therefore said that what FRCN was working hard to do was to make each news reader come as very close as possible to the correct pronunciation of unfamiliar names of people and places.

LAGOS STATE SUES MINISTRY OVER TV CHANNEL WITHDRAWALS

Lagos DAILY TIMES in English 4 Nov 80 p 32

[Text] The Lagos State Government has taken the Federal authorities to court over the withdrawal of the television frequencies and channels previously allocated to it.

In an affidavit sworn to at a Lagos High Court, the General Manager of the Lagos State Broadcasting Corporation, Mr. Ayo Okesanya, joined the Minister of Communications, the Director of Telecommunications, and the Federal Attorney-General as defendants.

Mr. Okesanya said his corporation applied to the Director of Telecommunications for allocation of television channels and frequencies and that it later received a reply granting the request.

He also swore that his corporation then arranged and paid for three 10/1KW T.V. transmitters with transmitting accessories, masts, microwave link equipment, programme input equipment, picture transmitter, test assembly and civil works for mast foundations at a total of N1,916,776.61.

The general manager said that the above gadgets, together with vital accessories, costing N3,529,434.10, were bought and installed in readiness for the take-off of the Lagos State Tele [as printed]

Mr. Okesanya said that to the consternation of his corporation, the director of communications wrote to withdraw all the specified approval granted.

He added that the Lagos State Broadcasting Corporation had been suffering great financial losses which, he said, would continue as long as the purported withdrawal continued.

Mr. Okesanya therefore urged the court to rule that the purported withdrawal of the licence was illegal obstructive, void and therefore of no legal effect.

CSO: 5500

NIGERIA

EXTERNAL TELECOMMUNICATIONS SAID HAMPERED BY P&T

Enugu DAILY STAR in English 4 Nov 80 p 5

[Article by Arthur Ezenekwe]

[Text] The effective linkage of Nigeria with the outside world through the Nigerian External Telecommunications Company (NET) is seriously being hampered by the slow pace of development in the Post and Telecommunications Department (P and T).

This was made known at a press conference in Lagos by the Acting Chairman of NET, Chief A. Ola Yesufu.

Giving examples of the problem, Chief Yesufu said that while the international direct dialing telephone service has been introduced from some P and T exchanges in Lagos area to overseas, "this service cannot be made countrywide at present because P and T exchanges are not yet equipped for such facilities."

Chief Yesufu said that the service which enables subscribers to call overseas numbers direct without the assistance of operators could be provided nationwide if all the P and T exchanges become equipped for it.

He pointed out that as of now, 80 customers have applied to the P and T for another service, but their applications have not yet been approved and consequently the NET cannot make the necessary international connections.

The service is a point-to-point one which connects an office in Lagos to another one overseas, but as a rule applications have to be made through the P and T since it is responsible for the provision of the machines and the necessary connecting lines.

Chief Yesufu pointed out that a recent N40 million satellite earth station project embarked upon by the NET in Kujama, near Kaduna to connect international communications to the northern parts of the country would not have been necessary if the P and T has an effective internal network communications to do the connection from Lagos.

He said more of such satellites are planned for other parts of the country as long as the problem lasts.

He noted that if the Federal Government granted NET right of installation of overseas telecommunications services in the country, customers would get such services without tears.

Chief Yesufu also lamented the continued treatment of the NET as part of the civil service in terms of remuneration which has demoralised hardworking staff of the company owned by the Federal Government.

CSO: 5500

MINISTER REVIEWS TELECOMMUNICATIONS PROJECTS

Johannesburg THE STAR in English 23 Oct 80 p 11

[Article by Carolyn Dempster]

[Text]

South Africa could become the laughing stock of the world if the Post Office did not offer the newest services being made possible by micro-electronics, the Minister of Posts and Telecommunications, Mr Henrie Smith, said yesterday.

He was speaking at the opening of the 51st Congress of the Telecommunication Association in Port Elizabeth.

"Micro-electronics is becoming essential not only in telecommunications but also in medical services and in every field of industry, manufacture, transport, printing and consumer products. If we do not employ micro-electronics, we will not remain competitive in the

world market," the Minister said.

DIGITAL SYSTEMS

Among the innovations being introduced by the Post Office to keep up to date with developments were two digital electronic telephone switching systems.

The first system (the German EWSD) had already been installed in Sunninghill Park, Johannesburg, and should be operational within the first quarter of 1981.

The second system — a French E10 was presently being installed in Pretoria. Because of special adaptations to enable the use of the standard South African Protea telephone, the installation of the E10

would take a little longer, but extensions to existing systems would eventually provide for an additional 8 500 lines in the Pretoria area.

It was expected that by the year 2005 only digital electronic exchanges would be in service.

ELECTRONICS

The telex network was also being modernised and expanded and with the recent introduction of an electronic computer exchange, the Post Office was now providing a direct dialling service to 110 foreign networks in 76 overseas and 19 African countries.

The vast developments in the fields of micro-electronics had been seen by trade unions as a cause

for concern over job opportunities.

In his opinion such fears had been proved invalid, as in the long term growth potential would be stimulated and not hampered by the introduction of micro-electronics.

NO REDUNDANCY

"I foresee no staff redundancy problems as far as the Post Office is concerned," he stated.

Despite the fact that the Post Office installed 204 070 telephones from April 1979 to March 1980, the demand still exceeded the supply. Over the same period the demand for telephones increased by 40 000 — largely as a result of requests from the black residential areas.

CSO: 5500

MPOMA EARTH SATELLITE STATION DESCRIBED

Kampala UGANDA TIMES in English 9 Oct 80 pp 16, 21

[Article by Betty Matoru]

[Text] USING Mpoma earth satellite station, Uganda will link direct to more than 100 member countries of Intelsat via Satellite above the Atlantic Ocean towards the end of this year.

This will mean that a subscriber will be able to ring direct to London, New York, Bombay or anywhere else from an office or home in Uganda.

Mpoma Station situated on Kyagwe Road about five kms from Mukono town, belongs to the standard 'A' satellite system. The antenna is in its final stages of assembly by a Japanese firm, Nippon Electrical Company will face the Atlantic Ocean where Uganda's telecommunications traffic is heaviest.

This will replace the country's standard 'B' system assembled by the Harries Corporation of the United States in 1977 at Ombachi in Arua and Kololo in Kampala. The Ombachi station went off air at the height of the liberation war in 1979.

Uganda decided to enter satellite communication independently after the collapse of the East African Community in 1976. Before

that Kenya, Uganda and Tanzania were together operating the Longnet satellite earth station since 1970.

So far in 12 months the Uganda Posts and Telecommunications Corporation has spent about 50m/- in running the stations. Apart from the limited number of circuits, the country was still tied to London and bound to build more stations of this type to boost internal telecommunications radio and television.

Although radio and television are occasional, Ugandans would be able to enjoy programmes from distant countries on a special arrangement.

The operation of the satellite is fully automated. Its control room is provided with a video monitor to indicate faults and give appropriate remedies.

The station has 150 channels which is enough to meet Uganda's needs for the next 20-30 years. It opens with 30 channels, 12 circuits in the international pool and 24 telex circuits.

As traffic increases more channels will come into service, and it is expected to

grow with the rate of rehabilitation and reconstruction of the country's shattered economy and social services.

Satellite communication experts believe that the choice of standard 'A' will bring in foreign exchange. The cost of leasing a circuit from the International Telecommunications Satellite Organisation-Intelsat—which operates satellite communications into the world is 620 dollars on standard 'B' per unit per month and 420 dollars on standard 'A'.

The satellite project which pulls Uganda out of its limping telecommunications services will cost about 30m/- in civil works and about 90m/- in electrical equipment. It is believed that in about five years the project should pay back the investment besides serving the taxpayer satisfactorily and earning some foreign exchange.

As Uganda Posts and Telecommunications Corporation prepares for rehabilitation, a number of countries and organisations have expressed the desire to assist the corporation in

rehabilitating and reconstructing its services, following the successful conclusion of the liberation war.

So far the corporation has received more than 3m dollars in aid for the rehabilitation of telecommunication services both internal and external.

The projects are to include restoration of high capacity telecommunication links between Kampala, Masaka and Mbarara with sufficient capacity to cater for communication beyond these towns with spurs to Kigali, Bujumbura in Rwanda and Burundi. It will

also connect Bukoba and Goma in Tanzania and Zaire respectively by means of 960 microwave network.

In addition the aid is meant to restore rural radiocall services between Kampala and remotely fixed-mobile stations all over the country.

The aid will also cater for the conversion of Kololo domestic satellite earth into a standard 'B' international station. This will enable the corporation to make facilities for TV and radio broadcasting services.

In Kampala, much damage was done to subscriber equipment by looters who pulled receivers from premises, towed switchboards

from office and helped themselves to teleprinters.

Until the final assessment of the damage is made, the corporation may require no less than 1,217m/- for rehabilitation, reconstruction and development programme stretching up to 1984.

Mbarara and Kabale are back on telephone service following the rehabilitation of the telecommunications links between Kampala, Masaka and Mbarara.

The rehabilitation process continues and future plans envisage modern electronic exchanges for Masaka and Mbarara.

NEW TELEVISION STATIONS DESCRIBED

Kolwezi Station

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 22 Aug 80 pp 1, 6

[Article by Mufindu Makaya: "TV has Arrived!"]

[Excerpts] Since 1600 on Sunday 17 August of this year, the Kolwezi land station has been picking up the first television images.

Built on the site of Katonto, 30 km from the city, which visually dominates the urban subregion of Kolwezi, this center will provide television coverage for a significant area of 70,000 square km, more or less.

Its beam not only extends over the territory of the Kolwezi subregion, but it will also carry the image from Zaire beyond our national borders by means of a SECAM [Sequential Memory Color] K 2 process color transmitter with 2 x 1 kilowatts of power.

In his speech Citizen Makela Manputuka, the director of the project, stated that the completion of the Katonto Center is the result of important improvements on the Lubumbashi-Likasi-Kolwezi radio-wave section. The improvements focused on the three points and included the electrification of 90 percent of the Hertzian relay stations and the almost total elimination of turbo-alternators operating on kerosene. Also noteworthy is the addition of a third transmission channel and the rehabilitation of all of the tele-signaling, telesurveillance and telemeasuring systems.

Continuing his speech, Citizen Makela said that automatic-starting generating unit was installed at the Katonto Center to make up for the inadequate electric motor distributed by SNEL [expansion unknown].

Addressing the guests more particularly, the director of the Rezatelsat project confirmed that this station was inaugurated in the context of the Executive Council's desire to give all of the country's sons and daughters the same chances for economic, cultural and social development.

In closing, he thanked GECAMINES [General Quarries and Mines Company] for the commendable aid it continually contributed during the 40 months of work that led to the completion of the Katonto Center. He then congratulated the Thompson engineers for assembling and installing the equipment, the Yves Office, which has the control mandate, and the Malta Forrest Enterprises.

Kambove Rezatelsat Station

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 25 Aug 80 p 3

[Article by MBM: "The Inauguration of the Kambove Rezatelsat Station"]

[Text On Wednesday 20 August of this year the secretary of state for Posts and Telecommunications, Citizen Mwamba Mukukwila Nkoy, conducted the official inauguration of the Kambove Television Broadcasting Center. The assistant regional commissioner, Citizen Salumu, and the Likasi subregional commissioner, Citizen Koyagiolo Ngbase, accompanied the secretary of state as he moved about Kambove.

The installation of the Kambove Color Television Transmission Center follows the 100-watt black and white transmitter installed several years earlier by GECAMINES for the information needs of its personnel and the inhabitants of the urban subregion of Likasi.

With regard to the new center, whose power is 2 x 1 kilowatt (active reserve, which is to say that in case of a transmitter breakdown there is still transmission, because the other one automatically picks up the signal), its video signal comes from Kinshasa, by satellite between N'Sele and Lubumbashi, and then by radio waves from Lubumbashi to Kambove, via two relay stations, Tumbwe and Luafi.

The Kambove station has been in operation since February 1979. But the work was accomplished in two periods: the two-axis phase in 1974 and the Rezatelsat phase in 1979.

8946

CSO: 5500

TELECOMMUNICATIONS MODERNIZATION IN SHABA DESCRIBED

Kinshasa ELIMA in French 3 Sep 80 p 8

[Article by Maniak Osiok]

[Text] The ONPTZ [Zairian National Posts and Telecommunications Office]/Shaba is entering a new era, characterized by a modernization of its equipment and machinery.

In fact, several months from now, according to the statements of its regional technical director, Citizen Kabamba Katondo, two new electronic, telephonic and telex exchanges will go into operation in Lubumbashi, to replace the present ones.

With its electronic equipment the problem of tone in telephone conversation, which is the object of incessant demands on the Office by subscribers, will no longer arise. Also, telex subscribers will be able to contact their Kinshasa correspondents directly and automatically, without going through the exchange.

It should be pointed out that since last December semi-automatic operation has existed in the telephone area between Lubumbashi and Kinshasa. It is experimental and is to last six months. There are provisions for automating the Kamina and Kalemie telephone exchanges too, as well as for renovating the underground cables for the city of Lubumbashi.

Three Land Stations

Concerning the satellite land stations, Shaba has three, in Lubumbashi, Kamina and Kalemie. These three stations are accompanied by television transmitters. The result of the acquisition of this equipment is a heavy increase in telecommunications traffic, not only within the region but also with Kinshasa and the other regions.

Connection Soon Between Zaire, Zambia, Mozambique and Zimbabwe

On the other hand, a reliable source reveals that there will soon be connection between Zaire, Mozambique, Zambia and Zimbabwe.

This initiative can only come about through the negotiations that have been engaged in between these four countries since the last summit of their chiefs of state in Lubumbashi. As far as our country is concerned, this will enable it to acquire exact information on the arrival of merchandise being shipped by way of the other three countries.

BRIEFS

COMMUNICATIONS SATELLITE LAUNCHED--Moscow, 17 Nov, TASS--A new communications satellite Molniya-1 was launched by the Soviet Union on Sunday to maintain distant telephone and telegraph radio communication as well as transmission of national television programmes to the Orbita network of reception stations in the Soviet extreme north, Siberia, Far East and Central Asia. The satellite has been put into a high elliptical orbit with an apogee of 40,651 kilometers in the Northern Hemisphere and a perigee of 640 kilometers in the Southern Hemisphere. The orbit has a period of 12 hours 16 minutes and an inclination of 62.3 degrees. Apart from equipment to beam television programmes and maintain distant multichannel radio communications, the satellite carries command and measuring complex instrumentation as well as orientation, orbit correction and power-supply systems. The onboard equipment is functioning normally, communication sessions with the Molniya-1 satellite will be held as scheduled. [Text] [LD171302 Moscow TASS in English 1300 GMT 17 Nov 80]

CSO: 5500

REJECTION OF NORDSAT TO SET BACK NORDIC COOPERATION

Copenhagen BERLINGSKE TIDENDE in Danish 3 Nov 80 p 7

[Commentary by Gunnar Naesselund, deputy chairman of the presidium of the Nordic Council, former manager of UNESCO's communications program and manager of Ritzaus Bureau at present]

[Text] Among the people who participate actively in Nordic cooperation or regard it as a positive element in the existence of the Nordic countries, widespread fear prevails at the moment that a "no" to Nordsat will unleash a new wave of disappointment among the populations of the Nordic countries and of criticism of politicians for hesitancy and narrow-mindedness.

It is inevitable that such reactions will be expressed if Nordsat breaks down over the shape which it has been proposed the idea of Nordic cooperation should take at present, but they will have little nourishment on which to survive for a long time.

In the first place, there is discussion of only one of many alternative possibilities for making use of a new communications technology which, up to the present, has neither been very strongly rooted in political motives ("to provide the people with voting alternatives") nor in a desire to strengthen Nordic cooperation in the cultural domain (who, at any time, ever asked television viewers and radio listeners what they wanted?)

In the second place, with regard to cultural policy, extremely alarming reasons for taking action are being discussed which actually did not come up for debate until after the present preliminary-studies directives had been prepared--specifically, to protect Nordic culture against influences from abroad in the future.

If one could control cultural development by means of regulations regarding what is offered--that is, favoring Nordic channels--one might very easily get into an unfortunate situation where the great majority of viewers would ignore what was offered and find ways and means to get what they wanted to have. If, for example, in Denmark and Norway, one wanted to regard Nordsat as a cheap way of acquiring television channel number 2--or of conforming to interests on the Faeroes, in Greenland and on Iceland--one would first have to make sure, in any case, that one had settled it in one's own mind that the needs had been clearly expressed and

the manifold nature of the technical means available had been considered sufficiently thoroughly in the affected areas. Denmark may well be the Nordic country whose viewers, when confronted by a clear arrangement of all the alternatives (if such a thing is conceivable), would be the most likely to reject the idea of Nordsat for their own part as it is proposed at the present time. Its technical and cultural scope, as compared to the expense involved, is unconvincing.

In the third place, Nordic cooperation in regard to obtaining increased opportunities to see each other's TV programs or to get more out of television technology jointly is not coming to a stop just because the idea of Nordsat has to be abandoned. National, economic and cultural policy considerations will constitute the basis for the governments' final answers on the Nordsat project, and they certainly will not provide motivation for charges of a lack of belief in the importance of Nordic cooperation in the field of cultural policy (and definitely not in the field of telecommunications, where Nordic cooperation is exemplary in most other respects). Nordic cooperation is built on the principle that no country should need to agree to anything if it believes that thing to be against its own interests. That cooperation is cooperation among sovereign nations, and there are few people in the Nordic countries who think it would be advantageous for everybody if we had been on the way toward a new Kalmar Union today.

Is it not a sign of weakness in Nordic cooperation, then, that the big ideas all seem to be going to undergo shipwreck? It can be argued with just as much justification that it is a sign of its strength that the big ideas are brought forth under Nordic cooperation and are tested on as objective and well-thought-out a political basis as possible. Where the Nordsat project is concerned, it is essential to note that opinions regarding its timeliness and its consequences have been so divided that political decisions in one direction or the other have an extremely flimsy basis in any case. In that situation, arguments of a national orientation will naturally carry more weight than those of Nordic orientation.

In reality, the Nordsat plan indicated a noteworthy willingness on the part of all Nordic governments to enter into serious, and sometimes expensive, testings of new ideas to expand Nordic cooperation in an international situation where mutual support and cooperation can possibly be expected to facilitate getting problems solved. The driving force for this intensification of Nordic cooperation comes not only from the 78 active members of the various parliaments, whose role in that cooperation is that of individuals who take the initiative, but also from the governments themselves.

The governments have taken the initiative in setting up a joint economic research council which is to determine in what fields the Nordic countries can advantageously act jointly for the purpose of mitigating or averting the economic crisis. They have gotten a comprehensive investigation under way for the purpose of determining whether the Nordic countries' research resources can be exploited more effectively through closer cooperation. They have gotten a number of cooperative activities under way in the energy field and, on the basis of the Nordic Council's preliminary work, they have gotten a program of identifying, and perhaps removing, obstacles to the closest possible industrial cooperation across the various frontiers under way.

Coordination which is directed outward is being intensified in many areas. The Viking exhibition and the coming "Scandinavia Today" campaign in the United States are a couple of examples of this. Additional vigor is now being imparted to practical cooperation directed outward by an agreement concerning the exporting of projects. The purpose of that agreement is to strengthen the Nordic business community in competing for big projects abroad.

In the field of cultural policy, it is a piece of good luck--and something of a coincidence--that, at the same time the Nordsat project was being settled, people are working on an evaluation of cultural cooperation up to the present (the principle motive power for which is provided by the Secretariat for Nordic Cultural Cooperation in Copenhagen) in the areas of education, research and general culture in the 1970's as a basis for discussion at the coming session in Copenhagen from 2 through 6 March 1981 on Nordic cultural-policy cooperation in the 1980's. At any rate, a conference which was recently held in Goteborg by the Nordic Council and was concerned with the Nordic cultural community indicated that if Nordsat does not come to anything that will not be regarded as a catastrophe among those who are active in cultural cooperation. There are enough ideas, and unquestionably there are needs which it would take several million kroner to satisfy if one could hope to get the cultural cooperation funds increased in compensation for the lack of a Nordsat solution--which failed to make its appearance. The debate also showed that the primary need in the cultural field in the Nordic countries is more contact and better exchanging of information across the borders, and, in this area, human contact which can contribute to inspiring all the Nordic countries to assist in the advancement of the many cultural personages in those countries is particularly needed. The conference was clearly characterized by the realization by all those attending of the value of preserving a pattern in the development of the Nordic cultural community which was as many-sided as possible. As a motto, the debate could have used Piet Hein's aphorism: "If one is not himself, he is no one. If one is himself, he is everybody, for we recognize ourselves in each other's different characteristics."

If anybody has heard that Nordic cooperation is stagnating in bureaucracy and collapsing illusions, that is only a small part of the truth.

What actually exists, above anything else, is a far-reaching network of contacts, consultations and concerted actions in a large number of important areas where cooperation takes place, with everybody aiming at making it easier and simpler to move around everywhere in the Nordic countries, to benefit from each other's experience, to act jointly wherever it is profitable and to support each other abroad wherever that will strengthen the Nordic countries' positions.

But bigger and bigger problems also actually exist with which we are confronted in those areas where the Nordic community now is encountering the greatest challenges in connection with the critical international situation: preservation of the welfare society which has given the Nordic countries their outstanding international reputation.

In this situation, the Nordic Council, as the regional body standing for cooperation by five sovereign states which, however, are very closely related to each other in ideological and historical respects, should be able to take a vigorous attitude toward practical measures calculated to result in a policy of continued fair distribution under conditions of less intensive growth. Before a more active effort

can be expected within the Nordic Council, there first must be, among other things, more self-assured planning during the preparatory work for the yearly sessions, a concentration of attention on essential problems in committee work and at the sessions themselves and discussion of the assignment of priorities to the resources that are available to the process of cooperation which bears a strong political stamp.

The people of the Nordic countries have a desire for much better information regarding what they are getting for their money than the present sessions provide a basis for. In many other countries, the Nordic model is such an important alternative that it would cause astonishment and disappointment if the Nordic Council's sessions themselves do not give evidence, in the debates which are more concerned with basic principles, of the consciousness that brings the most outstanding politicians of the Nordic countries together in a public forum once a year.

9266

CSO: 5500

FIRM DEVELOPS ADVANCED SATELLITE RECEIVING STATION

Oslo HANDELS OG SJOPARTSTIDENDE in Norwegian 23 Oct 80 p 13

[Article: "Danish Industry Presents Minisatellite Receiver:]

[Text] Probably one of the smallest and least costly receivers' for satellite navigation is now being presented in Oslo by the Danish company Rauff & Sorensen A/S. The receiver's performance level is equal to the advanced equipment in the market, as demonstrated to shipowners, authorities, and Norwegian dealers by Director E. Rauff. The receiver, developed in cooperation with Danish universities, among others, weighs less than 5 kilograms. It is the first satellite receiver for navigation developed in Northern Europe.

Director Rauff states that the receiver, the "Shipmate RS 5000," will be produced in a model especially adapted for fishing vessels and the yacht market, and another model will be produced for larger vessels. The production, to begin at the end of the year, will be on a large scale. Deliveries to the Norwegian market will begin in next February. The first series will be of 1,000 units.

Director Rauff states further that the sensationally low price of 19,900 kroner is due to high production volume together with a new technology. "For the large-ship model there is a small extra charge for the interface. The almost sensational publicity and feedback we have received in more than 15 shipping countries indicate that we have the right product at the right time and at the right price," Rauff continued.

The price of the receiver can be compared to that of radio direction finders or the annual rent of an ordinary navigator. In our opinion nothing prevents our satellite receiver from becoming a standard navigation instrument for vessels of all sizes."

Fuel Savings

During the demonstration it was pointed out that satellite navigation as a system can cause fuel savings of 1 to 2 percent by means of frequent and faultless updating of position from satellites. In certain cases the savings have recovered the purchase price in less than 1 year.

High Reliability

The low current consumption of 12 watts makes it possible to use the equipment continuously aboard, for example, a sailboat with a 12 02 24 volt battery. A built in nife (nickel-iron) battery will provide current for the computer memory for up to 30 days.



It was also stated that the navigator is coupled to an antenna with a built in amplifier that compensates for heavy rolling and pitching.

Operation is very simple and fully automatic. Position data are shown on a print-out screen that updates the position every 10 seconds.

Manager Bjorn Thue of BT Electronics A/S, general representative of "Shipmate" products in Norway, stated that one of this country's largest maritime electronics suppliers will within a short time be allotted the marketing in Norway.

After the successful presentation at the Globetrotter Hotel, demonstration will be given in Stavanger and Bergen and at the coast to the north.

11,256
CSO: 5500

OFFICIAL TELECOMMUNICATIONS AGREEMENT EXPLAINED

Paris ELECTRONIQUE ACTUALITES in French 3 Oct 80 p 9

[Article by D. Levy]

[Text] The Telecommunications Division of Jeumont-Schneider and the Jobin Yvon Division of Instruments, Inc. have just concluded an exclusive cooperation agreement for the development of optical applications in the fields of telephony, telemetry and bureautique [office computer machines]. This cooperation is aimed at the creation of a whole range of opto-electronic switching and transmission systems and products. It is based on the worldwide fame of Jobin Yvon in recorded or holographic plates and monochromators and on the competence of Jeumont-Schneider in temporal electronic telephony.

Thanks to the experience it has acquired in opto-electronics, heretofore oriented toward scientific research and instrumentation, Jobin Yvon is planning to play a significant role in communications using optical fibers. Its strategy is on two levels: On the one hand, it will now make available to all industrialists wishing to utilize the transmission of information by optical fibers adapted components such as multiplexing and demultiplexing polychromators to take in and put out information transmitted by optical fibers. Second, it has concluded an exclusive cooperation agreement with Jeumont-Schneider in order to jointly develop new optical systems to be used in telephony, telemetry and bureautique.

Telephone and Optical Expertise

The agreement made between Jeumont-Schneider and Jobin Yvon fits into the framework of future communications systems. The two partners are in agreement on one important point: The temporal automatic switch will be the key to future telemetric and bureautique facilities.

Jeumont-Schneider made a remarkable achievement with its private temporal automatic switches and to date, has received orders for over 750,000 telephone lines. It has sold over 10,000 of its Jistel 31 model. In 5 years, the company has gained a solid foothold in the French private telephone market with 25 to 28 percent of the total (400 million francs in turnover for equipment produced alone). Moreover, it is beginning to harvest the fruits of an aggressive export policy (22 percent of the turnover this year). Actually, its automatic switches are being sold in over 15 countries, including Saudi Arabia, Colombia, the United States and Tunisia.

The firm is highly aware that the future of the telephone depends on communications by optical fibers. It has also decided to play an important role in *bureautique*. That is why it has filed its dossier with CODIS [expansion unknown], together with CERCJ [expansion unknown]. For Jeumont-Schneider, *bureautique* is considered to be the interconnection of the automatic telephone switch with a computer. The constant increase in the flow of information will require the use of means of transmission and optical switching (wide-band automatic switches).

Jeumont-Schneider believes it will be able to find this "optical complement" in cooperation with Jobin Yvon, which has become a world leader in the field of recorded or holographic plates and monochromators (its range is from near and remote ultraviolet to infrared). The firm is oriented toward instrumentation, mainly producing spectrophotometers, spectrofluorimeters, transmission spectrometers, and so on. It has developed integrated optical devices and designed variable wave lasers leading to applications in analytical spectrometry.

This experience will make it possible to offer builders of transmission systems by optical fibers a number of multiplexing and demultiplexing devices using optical fibers (up to six fibers at present). These are devices that will interest all optical cable makers and that will be found commonly in wired cities that follow the Biarritz experiment (where only duplexers will be used). However, the firm would certainly like to see some of its products at Biarritz!

11,664

CHN: 5500

FRANCE

BRIEFS

LEGALIZED CB RADIO--It has just been announced that CB radio is soon to be legalized in France. There are already more than 100,000 CB radios in France. They are now to be legalized on a frequency of 27 mhz with a power of two watts, transmitting on frequency modulation with a maximum of 22 channels. This means that many existing sets will have to reduce their power. People using model aircraft will be allotted a new frequency, probably 41 mhz. [Summary] [LD201210 Paris Domestic Service in French 1200 GMT 19 Nov 80]

RADIO-TV BOARD MEMBERS--In this morning's official gazette there is a decree which names the state's representatives on the management boards of the four radio and television program companies for the coming period, namely, from 1 January 1981 to 31 December 1983. The names are for TF-1: Jean-Louis Guillaud; for Antenne-2: Maurice Ulrich; for FR-3: Claude Contamine; and for Radio France: Jacqueline Baudrier. The four who are the outgoing chairmen and director-generals will thus remain at the management board of their respective companies and will most probably be reappointed to their offices. It is learned from a reliable source that they will probably be appointed for 3 years by a decree passed by the Council of Ministers at one of its last meetings of the year. [Text] [LD241052 Paris Domestic Service in French 0800 GMT 23 Nov 80]

CSO: 5500

DUTCH INTERESTED IN EUROPEAN 'L-SAT' COMMUNICATIONS SATELLITE

Rotterdam NRC HANDELSBLAD in Dutch 8 Oct 80 p 13

[Article by Sjoerd van der Werf: "Netherlands Want Important Share of New Satellite Program"]

[Text] The Dutch space travel industry wants to gain a large share in the construction of the European satellite L-Sat. It is a new type of artificial moon for various communications purposes, such as direct television, teleconferences, etc.

Europe

It is generally assumed that a large market for this type of satellite will develop in Europe and elsewhere. But a lot will have to be done to conquer a big portion of this market because the competition from France, Germany, and American will be fierce.

British and Dutch space travel experts came to this conclusion during a discussion meeting held Tuesday in Utrecht and dedicated entirely to the L-Sat program.

P.F.J. Linssen, head of the space travel section of the Dutch Institute for the Development of Airplanes and Space Travel, pointed out that the L-Sat—its first demonstration model will be launched with an Ariane rocket (later versions will also be put in orbit with the American space shuttle) towards the end of 1984—will be a hot sales item.

This is one of the most important reasons that so many existing technical devices which proved to be reliable will be put into it; a lot more than in a purely scientific satellite, like, for instance, the Dutch Iras.

According to Linssen the Netherlands would have preferred first of all for various industries to cooperate in putting the L-Sat together and for cooperation between various governments to take second place. However, these things are done somewhat differently with Eas projects. The central issue is then cooperation between governments; moreover, many more (and also smaller) partners will be playing a role. France and West Germany, which have been working together on a television satellite for some time, could have an advantage in this respect. According to Linssen, however, that cooperation does not appear to be very harmonious.

Television Satellite

The Netherlands, at least as user, has probably little or no interest in the satellite. At the most, it will buy such an L-Sat (commercial price about 60 million dollars) in cooperation with other European countries.

These satellites could also be interesting for commercial television. Luxemburg is therefore looking into it. The situation is completely different in Italy and Canada. Italy appears to want four L-Sats and Canada wants three of them.

Research indicates that between 1983 and 1999 a demand for about 192 big satellites of the L-Sat type will have developed. Thirty-six to 48 of these satellites could be made in Europe.

One Basket

Linssen warned however, that as regards space travel The Netherlands should not put all its eggs in one basket. L-Sat is indeed an exceptionally interesting project but one must see to it that more ambitious plans—with all kinds of new technologies—will also be given a chance.

That should be the case with scientific satellites in particular. Linssen is also convinced that the money The Netherlands would invest in L-Sat will probably be spent for only 50 percent within its borders. With a satellite for scientific purposes the Dutch share would almost entirely be spent within its borders.

In conclusion Linssen pointed out that the Dutch should really not be too modest. He thinks: "We happen to be good at big things and should not belittle ourselves. We should therefore try to become partners in the L-Sat construction project. If we become only subcontractors we will have missed this opportunity."

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CSO: 5500

'STANDARD TELEFON' GETS EXCHANGE ORDERS FROM ABROAD

Oslø HANDELS OG SJOPARTSTIDENDE in Norwegian 22 Oct 80 p 4

[Article: "STK Orders for 30 Telephone Exchanges from Developing Countries"]

[Text] STK [Standard Cable and Telephone Company, Inc.] recently received an order for 30 telephone exchanges from Papua, New Guinea, 27 exchanges from Zambia, and 4 exchanges from Indonesia. The STK's deliveries of telephone exchanges will in 1981 amount to over 40 million kroner.

The exchanges, of type "Metaconta Rural," were developed by the STK for use especially in small towns and settlements. C. M. Stephen, Indian minister of communications, recently visited Norway. He and his delegation had conversations with, among others, Gen Dir Kjell Holler and Technical Director P. Mortensen of the telecommunications administration. The delegation also visited Standard Telephone and Cable, where they watched production of telephone exchanges and other communications equipment.

The reason for the visit was that the Indian Post and Telegraph Administration has now for more than a year had an STK-produced telephone exchange in operation in the village of Kosi-Kalan, located between the cities of New Lehlí and Agra. The exchange has fully met the expectations of the Indian Post and Telegraph Administration. The exchange was delivered by the STK fully assembled and tested in an aluminum container, the permanent "house" of the exchange.

The Kosi-Kalan exchange is the first electronic exchange in operation in India. It was opened 15 August 1979 by then Norwegian communications minister A. Jordahl.

The Indian communications minister wishes to discuss the possibility of producing Norwegian-developed communications equipment in India. There is great interest in such a project, which would contribute importantly to development of India's telecommunications network. A developing country of the size of India cannot base its telecommunications development on imported material, but must develop its own industry, among other things, in order to reduce the need for foreign exchange and to create employment.

11,256

CSO: 5500

NEW SHIP-TO-SHORE RADIO SERVICE SYSTEM TO START

Oslo HANDELS OG SJOFARTSTIDENDE in Norwegian 22 Oct 80 p 11

[Article: "New Radio System Promises Greater Safety at Sea"]

[Text] A far more reliable radio system for emergency and safety communication at sea is now being developed. Fully developed, it will be established in international shipping before 1990.

So says Consultant Bernt Hauge Duborgh of the Norwegian Shipowners Association upon his return from the just concluded meeting in London of the radio committee of the UN maritime organization.

The new radio system, which will be used in all maritime communication, is based on satellite communication and conventional radio telephony, with each user assigned his own number. This means that from ship as well as from shore one can dial any ship participating in the system. Thus compulsory listening hours as heretofore imposed will no longer be necessary.

Traditional Morse telegraphy is not part of the new maritime communication system. According to the radio committee of the IMCO, rapid technological development has made Morse telegraphy unnecessary. The system is based on the assumption that rescue centers are established on a global basis, as decided by the international convention of 1979, Search and Rescue at Sea.

In an emergency situation a ship can by "pushing a button" automatically broadcast distress signals with the necessary information to the nearest radio station, which warns the rescue center responsible for the sea area in question. The new system also provides good opportunities for communication with nearby ships.

For a couple of years a research project has been under way on maritime communication, participated in by representatives of the authorities and employers and employees. The project was initiated under the auspices of the Norwegian Natural Sciences Research council and the Norwegian Ship Research Institute (NSFI), which heads the project.

On the basis of the work in the project, the Norwegian side in IMCO has been able to participate constructively in work upon the new system. The decisions taken at the radio committee meetings must be described as a significant breakthrough for improvement of emergency and safety communication at sea, says Consultant Hauge Duborgh.

TELECOMMUNICATIONS AGENCY VOWS TO COMBAT PIRATE RADIO

Oslo ARBEIDERBLADET in Norwegian 31 Oct 80 p 16

[Article by Tor Risberg: "The Telecommunications Agency Is Preparing to Jam and Is Declaring Total War Against the Radio Pirates"]

[Text] The Telecommunications Agency is preparing a major offensive in order to get the better of the increasing number of pirate radios. Jamming is part of what will be employed if it is not possible to stop the transgressions in other ways. There is reason to believe that plans are also under discussion for an extensive effort to prevent pirate broadcasts during the election campaign next year.

Chief Engineer Lavrans Grimstveit at the Telecommunications Directorate tells ARBEIDERBLADET that the increase in the number of pirate broadcasts over the FM network has been palpable the last few months. In Oslo, too.

"The problem is about to become very serious. Not only is the equipment illegal, but it interrupts both ordinary broadcasting and other radio communications. We cannot sit still and watch this."

"Therefore we are now thinking of employing jamming when pirates turn up on the air whom we have difficulty in locating. This is especially true of those who broadcast for brief periods and at irregular times. It often takes a long time to find them. A countermove can then be to lay a 'blanket of interference' over the area, which makes it impossible to get out with pirate broadcasts," says Grimstveit. He will not comment on what the Telecommunications Agency's anti-pirate offensive otherwise consists of.

"In our experience radio pirates create especially great trouble for the Telecommunications Agency before elections. What plans do you have for the election campaign next year?"

"This is something I cannot reveal here," says Grimstveit. But he adds that he and his staff possibly will receive communications from the public which come over pirate programs.

"But this is first and foremost a police matter. The Telecommunications Agency will contribute only with technical equipment for location and things of this sort. The rest is up to the police."

Grimstveit does not ignore the fact that several of the many radio pirates have organized themselves into a kind of "pirate network." This is also something which is being investigated by the police.

The most recent confiscation of pirate equipment took place in Stavanger Wednesday night. In cooperation with the police the Telecommunications Agency found its way to a 30-W transmitter in an apartment building in the city. It is the most powerful pirate transmitter the police have ever confiscated here at home.

Three people were caught in the act and arrested. The ringleader, a 27-year-old who has also helped Aage Samuelsen with pirate equipment, can expect a strong clash with the police.

All radio pirates realize that what they are doing is illegal. But when they are caught by the police many claim that the NRK [Norwegian Broadcasting System] monopoly is unconstitutional and that they therefore have a moral right to broadcast without public approval.

"Pirate broadcasts are clearly illegal and consequently cannot be accepted. But I look upon the pirate wave as a clear symptom of the need for a change in the law and for loosening up the broadcasting monopoly," Member of Parliament Lars Roar Langalet (Conservative) tells ARBEIDERBLADET.

Langalet has distinguished himself as the non-socialist wing's most zealous spokesman for a new broadcasting law. "After the last parliamentary debate the monopoly is hanging on a thin thread. I do not think it will be a long time before a loosening up forces its way forward. The pirate broadcasts reflect increasing impatience among people, mostly over the antiquated monopoly principle," says Langalet.

He points out that pirate broadcasts over the radio network are a European phenomenon. In France, for example, the Socialist Party has demonstrated its antipathy to the monopoly by broadcasting illegally. Here at home Aage Samuelsen's broadcasts represent one of several examples.

"Yes, in addition the ministry appears to be loosening up somewhat. The exemption for the students' nightly UKE ["Week"] broadcasts are an indication of this. Even if for the time being it is the only sign," says Langalet.

The Labor Party's spokesman for the broadcasting question, Kjell Magne Fredheim, thinks that the student radio is essentially different from the "loosening up" the Conservative Party is advocating.

"Langalet wants advertising-financed broadcasts for the benefit of heavily financed groups. This cannot be compared with the exemption for students, which, by the way, is not any new practice," says Fredheim.

"Parliament has recently discussed the new broadcasting law and continues to accept the NRK monopoly. The pirates, too, must reconcile themselves to this. When Langalet interprets transgressions as a symptom for a need for changes in the law, I think, incidentally, that he is stretching the approach to the problem rather far."

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D.S.